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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,414	11/06/2003	Phuong V. Luu	2376 (GP-01-24)	9788
40256	7590	02/06/2007	EXAMINER	
FERRELLS, PLLC			HUG, ERIC J	
P. O. BOX 312				
CLIFTON, VA 20124-1706				
			ART UNIT	PAPER NUMBER
			1731	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/06/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/702,414	<b>Applicant(s)</b> LUU ET AL.	
	<b>Examiner</b> Eric Hug	<b>Art Unit</b> 1731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-20 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

The following is in response to the amendment filed on November 13, 2006.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McConnell et al.(US 6,758,943).

McConnell discloses a tissue product that has a relatively long absorbency rate to delay liquid from saturating the tissue and pass from one side of the tissue to the other. The tissue product also has absorbency capacity to absorb liquid. The tissue product includes a "repellant agent" which resists absorption of a liquid. The repellant agent repels liquids by filling interstitial voids in the fibrous structure of the tissue and/or by coating individual fibers thereof preventing liquids from being absorbed by and passing through the fibers to the interior of the fibrous structure. The contact angle at the fiber surface is about 90 degrees or greater. Column 1, lines 29-42 of McConnell describes a repellant agent with regards to its function, its disposition on a fibrous tissue structure, its mechanism of resistance to liquid, the contact angle at the fiber surface, and suitable materials. Furthermore, a description of how the repellant agent coats the fibers is given in Figure 2 and in column 6, lines 22-31. For comparison, the specification of the present invention, particularly the paragraph beginning on page 10, line 15, similarly describes the function of the wax and mechanism by which it functions.

The repellant agent may include waxes. Column 2, lines 8-11 defines the term "wax" as used as a repellant agent and gives exemplary materials including paraffin waxes and microcrystalline wax. These are identically disclosed on page 22, lines 13-21 of the specification. It is presumed that waxes in McConnell are the same low melting point waxes as those of the present invention. A repellant agent and other papermaking additives are added to an aqueous suspension of papermaking fibers prior to or during forming a web. The amount of repellant agent used is between about 1-20 pounds per ton of fiber. The web is finally dried to form a tissue product. The repellant agent is dispersed uniformly, forming a liquid or fluid strikethrough barrier throughout the dried web.

Column 8, lines 54-58 describes the use of a steam heated Yankee drying cylinder and air hood at high temperatures for drying a treated web and curing the repellant agent. Temperatures are up to 200 degrees F (equivalently up to about 95 degrees C). Although "melting" of a repellant agent is not described by McConnell, it would be obvious that for waxes melting must occur during the drying/curing step because the operating temperatures of the Yankee dryer and air hood are higher than the melting point of the waxes. Compare to page 48, line 24 to page 49, line 9 of the specification where drying of a nascent (wax treated) web is discussed with reference to drying at a temperature above the melting point of the wax. The only apparent difference between McConnell and the present invention is that Applicant actually discloses that the waxes indeed melt. It must be concluded that if the repellant agent of McConnell is a wax, it functions in the manner as claimed.

The tissue products are made of cellulosic fibers. A tissue product may have a single ply structure as illustrated in Figures 1-2, or may have a two-ply structure as illustrated in Figure 3. The basis weight of a tissue product may vary between about 4-60 grams/m<sup>2</sup> which is equivalently about 2.5-37 lb/3000 ft<sup>2</sup> (conversion: 1 g/m<sup>2</sup> = 0.615 lb/3000 ft<sup>2</sup>). The absorbency rate desirably is between about 10 seconds to about 430 seconds. The absorbency capacity is desirably between about 7 gm liquid/gm tissue to about 13 gms/gms. These test methods are described in depth in column 3, line 57 to column 4, line 31. The "striethrough resistance" is also discussed, which refers to a characteristic of a tissue product which slows or impedes the movement of liquid from one surface of the tissue to the opposite surface.

McConnell discloses the claimed wax dispersion and components to provide a hydrophobic surface on a underlying cellulosic substrate, and also discloses the same method of applying the dispersion including the step of heating above the melting temperature of the dispersion during drying. McConnell also discloses single ply and multiple ply tissue papers having at least the claimed basis weights. McConnell also suggests the claimed delay times for moisture penetration. McConnell discloses the claimed contact angles for water.

***Allowable Subject Matter***

Claims 18-20 are allowed.

*Response to Arguments*

Applicant's arguments filed November 13, 2006 have been fully considered. The Declaration filed November 13, 2006 has also been considered.

The above rejection over McConnell essentially repeats what was presented in the office action of August 18, 2006, with some modification to more clearly point out the features upon which the examiner relies upon. The exception is that claims 18-20 have now been allowed. After reconsideration, it is acknowledged that McConnell does not teach incorporating the hydrophobic web into a tissue product in such a manner that the claimed liquid penetration barrier properties are met. Such a product cannot be gleaned from the reference.

In response to Applicant arguments that the wax is applied to web, whereas McConnell applies it to the wet end, Applicant is directed to column 4, lines 32-36, of McConnell, which discloses that additives may be sprayed onto fibers during the papermaking process. Even if Applicant disagrees that this does not encompass application onto a formed web, it is noted that the claimed "wetting at least one surface" can be accomplished by either wet end or surface application.

In response to Applicant's arguments regarding the sheet strength as being significantly weaker in McConnell, although this is recognized by the examiner, it is noted that this feature upon which applicant relies is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

In response to Applicant's arguments comparing the Absorbency Rate of McConnell to the claimed moisture penetration data, although it is recognized that the two measurements are not identical, it is felt that Absorbency Rate takes into account an impeded penetration of liquid which at least encompasses those of the present invention. The Absorbency Rate is disclosed as being 10-430 seconds, therefore a penetration delay of at least 2 seconds is likely.

In response to the Declaration, the unexpectedly superior results documented therein are acknowledged. This data has been considered with regards to the allowance of claims 18-20.

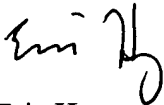
For all the reasons above, the rejection of claims 1-17 is maintained.

Art Unit: 1731

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eric Hug